



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/518,773

12/17/2004

David N. Johnson

0275Y-000608NPB

4910

7590

11/30/2006

Christopher M Brock  
Harness Dickey & Pierce  
PO Box 828  
Bloomfield Hills, MI 48303

EXAMINER

LANDRUM, EDWARD F

ART UNIT

PAPER NUMBER

3724

DATE MAILED: 11/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/518,773

Applicant(s)

JOHNSON ET AL.

Examiner

Edward F. Landrum

Art Unit

3724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-6 and 8-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-6, 8-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 2, 3, 5, 6, 8, and 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leshner et al (U.S Patent No. 4,604,933), hereinafter Leshner, in view of Mattes (U.S Patent No. 4,604,933), in further view of Kullmann et al '296 (U.S Patent No. 5,425,296), hereinafter Kullmann '296.

Leshner teaches (see Figures 1-6) an annular body (5), having a plurality of shoulders (8 and 9), with one insert (18 or 19) attached to each shoulder, each insert has two oppositely facing sides (22 or 32) with at least two cutting edges (23 and 24, or 38 and 37) with one surface on each insert (23 or 38) being disposed generally parallel to the rotational axis of the annular body (5) and extending over half of the width of the insert (see Abstract), therefore the first cutting edge (23 and 28) of each insert has a greater axial extent than the second cutting edge (24 and 37) of each insert. The second cutting surface (24 or 37) terminates at a side one of the oppositely facing sides. The inserts are carbide (Col. 4, lines 66-68). Leshner further teaches the interface of adjacent inserts being closer to alternate sides of the annular body, and the back angle of the cutting inserts being about 10 degrees (Col. 5, lines 54-56). Furthermore, each insert has a leading face (21 or 31) and a bottom edge (see Figures 3 and 5)

Lesher teaches all of the elements of the current invention except the second cutting surface is offset between 10 and 30 degrees from the axis of rotation of the annular body and the first cutting surface terminating at one of the oppositely facing sides.

Mattes teaches (see Figure 3) a saw blade with two cutting edges designed to reduce the cutting pressure acting on each individual cutting tooth (Col. 3, lines 5-15). The first edge (10 or 10a) of each tooth terminates on an alternating side of the saw blade.

Kullmann '296 teaches (Col. 7, lines 21-23; also see Figures 3 and 4) inserts with a second cutting surface edge surfaces with an angle (9), that can be offset about 10 to 30 degrees from the axis of rotation of the annular body.

It would have been obvious to have modified Lesher to incorporate the teachings of Mattes and Kullmann '296 to create inserts for saw blades which helped reduce the overall pressure on each tooth, thereby increasing the overall life of each insert, by making each insert have only two cutting surfaces and further incorporating a specific angle for the second cutting surface for the purpose of avoiding the adverse influence of transverse forces which hinder a saw blade's ability to make a straight cut.

3. Claims 4, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over the modified device of Lesher, in further view of Morris et al (U.S Publication No. 2002/0194974).

The modified device of Lesher teaches all of the elements of the current invention as stated above except the materials and percentage of these materials found in the carbide inserts.

Morris teaches (Paragraph 17) forming carbide inserts with, 8.6% TiC, 12% TaNbc, and 9.5% Co for the purpose of promoting crater and flank wear resistances on carbide cutting tools.

It would have been obvious to have modified the modified device of Lesher to incorporate the teachings of Morris by providing carbide inserts with 8.6% TiC, 12% TaNbc, and 9.5% Co for the purpose of protecting the cemented metal carbide substrate from the corrosive atmosphere and from abrasion, thereby prolonging the life of the carbide inserts.

#### ***Response to Arguments***

4. Applicant's arguments filed 10/25/2006 have been fully considered but they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, regarding the combinability of Lesher, Mattes, and Kullman, Mattes teaches that in order to reduce

Art Unit: 3724

cutting pressure acting on each individual tooth it is advantageous to make every other cutting tooth terminate on opposite sides of the saw blade, and therefore it would have been obvious to combine Mattes with Lesher and Kullman for the purpose of reducing the pressure acting on each tooth during cutting. Changing the dimensions of an insert does not teach away from either Mattes or Kullman as neither specifically state making the tooth structure non-symmetrical destroys the invention. Furthermore motivation has been provided to make cutting teeth non-symmetrical and therefore there is motivation to change cutting teeth on a saw blade from being symmetrical to non-symmetrical.

Regarding applicant's arguments on claim 2, Lesher teaches (see Figures 2, 3, and 5) an interface between the left cutting edge surface (24) and cutting edge surface (23) on a first insert (18) being closer to the left side of the blade body than an interface between the right cutting surface (37) and cutting edge surface (38) on a second insert (19) that is closer to the right side of the blade body than the interface previously described on the first insert (18). Mattes teaches that is obvious to make every other tooth terminate on opposite sides of the saw blade for the purpose of reducing the cutting pressure on each tooth and thereby prolonging the life of each insert. Mattes is not used to teach the distance between the interface of the cutting edge and the sides of the annular body. But if it were used to teach claim 2, as claim 2 presently reads, Figures 3-5 do show each interface is closer to one side of the annular body than another side, and even though both are closer to one side of the annular body than the other one interface (between 10 and 14) is still closer to one side of the annular body than the adjacent interface (between 10a and 15) and therefore still reads on claim 2.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Henderson (U.S Patent No. 3,176,732), Henning et al (U.S Patent No. 4,867,026), Hayden et al (U.S Patent No. 4,784,033), Kubis (U.S Patent No. 5,054,354), Carlsen et al '547 (U.S Patent No. 5,884,547), Carlsen et al '573 (U.S Patent No. 6,427,573), Kurelek et al (U.S Publication No. 2002/0000150), and Drake (U.S Patent No. 2,659,397) teach inserts for saws. Weible et al (U.S Patent No 87,891), McLean (U.S Patent No. 790,072), Ronan (U.S Patent No. 2,227,864), Harrison (U.S Patent No. 859,652), and Mason (U.S Patent No. 29,982) teach alternating edge saw blades.

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Art Unit: 3724

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward F. Landrum whose telephone number is 571-272-5567. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Boyer Ashley can be reached on 571-272-4502. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EFL

11/21/2006

  
BOYER D. ASHLEY  
SUPERVISORY PATENT EXAMINER